

The Active Life

A new regular column by chartered physiotherapist Nicola Bolger



Concussion in sport – the basics!

IN the last few years, concussion in the sporting environment has really come to the fore with more research into long-term consequences and more attention from the media. Concussion is a regular occurrence, especially in contact sports. Managing a prolonged severe concussion requires experts from many different disciplines. This article will cover the basics of what we should all be aware of as players, parents, coaches, referees and healthcare professionals regarding concussion in a sporting context.

What is concussion?

Concussion is a traumatic brain injury induced by biomechanical forces which may be caused either by a direct blow to the head, face, neck or elsewhere on the body with the impulsive force transmitted to the head. It causes a rapid onset of short-lived impairment of neurological function that resolves spontaneously, but sometimes the signs and symptoms develop over a number of hours. Concussion can cause a range of clinical signs and symptoms that may or may not involve loss of consciousness. Due to the fact that concussion can be an evolving injury and signs and symptoms may be delayed, erring on the side of caution is very important.



Why must we take concussion so seriously?

Ignoring the signs and symptoms of concussion may result in serious brain injury, a prolonged recovery period or even death. The potential for serious and prolonged injury means the need for comprehensive medical assessment and follow-up until the concussion has fully resolved. Returning to play before complete resolution of the concussion exposes the player to recurrent concussions that might take place with reduced forces. Repeat concussion can contribute to the shortening of a sporting career and has the potential to result in permanent brain injury.

What are the signs and symptoms of concussion?

If an athlete suffers a suspected concussion, they may have one or more of the following visible signs - a loss of consciousness, seizure or convulsion, lying motionless on the ground, slow to get up off

the ground, vomiting, unsteady on feet or balance issues, grabbing or clutching at head, dazed or vacant look, confusion.

The following are symptoms that athletes may report if a concussion has occurred. These include headache, drowsiness, irritability, sadness, nausea, fatigue or low energy, anxiety, emotional, "don't feel right", feeling slowed down, dizziness, "pressure in head", sensitivity to light, amnesia or feeling like "in a fog".

What should we do when we suspect concussion?

If an athlete demonstrates any of the above signs or symptoms, they must be removed from activity immediately and should not return to play on the day of injury. The athlete should not be left alone after the injury and should be monitored for deterioration in the initial few hours after the injury by an adult who is aware of the concussion. They must not drive a vehicle and they should be medically assessed as soon as

possible. They should not return to their sport until they complete a graduated return to play/sport protocol with medical clearance.

How should concussion be managed?

The pillars of managing concussion can be remembered as the three Rs? recognise, remove and rest.

Recognise – this is knowing the signs and symptoms as outlined above. Free phone apps such as the World Rugby Concussion Management or Concussion Recognition and Response can be downloaded to assist with the recognition of concussion. They should only be used as resources and are not intended to replace an assessment by a medical professional.

Remove – if a concussion is suspected, remove the athlete immediately from the game/competition.

Rest - the main treatment intervention for concussion is for the individual to rest until he/

she becomes symptom-free.

This includes avoiding vigorous physical exertion and cognitive rest. Cognitive rest means avoiding activities that require concentration or attention. This may include rest from or reducing daily mental tasks like work or school and reducing screen time on phones/computers. This rest period may ease discomfort during the acute recovery period by mitigating post-concussion symptoms and rest may promote recovery by minimising brain energy demands following concussion. After a brief period of rest during the acute phase (24 to 48 hours) after injury, patients can be encouraged to become gradually and progressively more active while staying below their cognitive and physical symptom-exacerbation thresholds. This means that their activity level should not bring on or worsen their symptoms. The usage of medication for headaches, anti-depressants, sleeping tablets and

caffeine should be taken into consideration, as they may mask concussion symptoms.

Most sports organisation have their own policy on returning to team or competition participation following a concussion, which is worth checking out. There will be a slightly different protocol for children and adults. However, across organisations and demographics, all protocols follow a similar pattern, which includes five stages after the rest period. The athlete should be completely symptom-free during daily activities before moving on to light aerobic exercise, then on to sport-specific drills that do not include head impact activities. This is followed by no-contact training before moving onto full training and a return to play. Depending on the sports organisations' concussion protocol, the athlete will most likely need a medical clearance before returning to full contact training.

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